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"Pain-killers do kill"

Case 1

Mr. A was a 30 years old man enjoying good health. He developed skin itchiness and rash after taking ibuprofen (Brufen) when he was a teenager. He attend AED for severe right shoulder pain after falling on outstretched hand.

XR of right shoulder showed fracture of the right clavicle. Dr. B assessed Mr. A and decided that Mr. A could be managed as out-patient and intended to prescribe some pain-killers to relieve the pain. Dr. B thought that the skin itchiness and rash happened years ago and Mr. A must have been exposed to NSAID in between. Therefore She prescribed oral diclofenac (Voltaren) and discharged Mr. A.

After taking 1 tablet of Voltaren, Mr. A develop severe shortness of breath and was taken to the AED by ambulance. Severe bronchospasm was diagnosed and Mr. A was intubated and ventilated in ICU for respiratory failure. He was extubated 3 days later and made an uneventful recovery.

Case 2:

Ms. C was 60 years old with history of aspirin allergy presenting as eyelid swelling and skin rash. She suffered from chronic low back pain from lumbar spondylosis and DM that was not well controlled.

She was admitted to ward for poor blood glucose control. After admission, she complained of severe low back pain around midnight. The on call intern, Dr. D, attended and prescribe oral ketorolac, which Dr. D learnt from another intern as an effective pain killer commonly used by anesthetists.

Fifteen minutes later, Dr. D was informed that Ms. C developed sudden confusion. When Dr. D saw Ms. C, he found her to have a BP of 60/ 40 and almost developed cardiac arrest. Anaphylactic Shock was diagnosed and Ms. C was managed accordingly. Fortunately, Ms. C made an uneventful recovery.

Comments from Dr CK Mok, Chairman, Drug Administration Safety Committee

Non-steroidal anti-inflammatory drugs (NSAID) are very commonly used in our daily practice. Most of us are well aware of common side effects such as gastrointestinal upset or bleeding. However, allergy to NSAID is a commonly overlooked issue as most reactions are mild and subsided with treatment. This false sense of security is very risky as severe allergic reactions to NSAID are well documented in the literature.

As illustrated by case 1, cross reactions is not uncommon within the NSAID group. Furthermore, relatively mild initial reaction to one NSAID **DOES NOT** preclude a life-threathening reaction to another NSAID. Therefore, if there is a reliable history of allergic reaction to a NSAID, it is wise to **AVOID** prescribing other NSAID. Other options that could be used for analgesia for NSAID allergic patients include opoids such as tramadol and pethidine.

Case 2 is a classical example of adverse drug reaction caused by unawareness and lack of vigilance. The class of NSAID is enormous with many members that are known by various trade names. This results in two important issues.

Firstly, patients may have allergy to drugs known by trade names that we are not familiar with. For example, the drug diclofenac is registrated under 257 different trade names in Hong Kong. It is simply impossible to know what each trade name stands for. A good website to search the active ingredient when we have trade names is: www.psdh.gov.hk/eps/productSearchSimpleAction.do

Secondly, never prescribe a drug even if you are instructed to do so unless you **know the nature** of the drug you are prescribing. A doctor prescribing a drug that a patient has known allergy could not be defended by working according to instructions.

"A tricky lady"

Mrs. E was a 88 years old lady presenting to the AED with vomiting and epigastric pain. Clinically she was afebrile with BP 110/ 70. ECG showed LVH changes and CBP showed a WBC count of 5. She was then admitted to the medical ward for observation.

The case MO, Dr. F, saw Mrs. E and thought that she could elicit signs of guarding and rebound in the epigastric area. She therefore urgently consulted on call surgeon for epigastric peritoneal signs. The on call surgeon, Dr. G, assessed Mrs. E 1 hour later and found no significant peritoneal sign. No further investigation was therefore advised.

5 hours later, Mrs. E developed shock with BP down to 80/40. She responded well to fluid resuscitation with 1L of normal saline and dopamine infusion at 5μg/kg/min. Empirical Augmentin was also started.

On the next day, she was examined again by Dr. F and she could found **no abdominal tenderness**. The chest was clear and the **CXR was normal**. **CBP, amylase were also normal**. On the next day, Mrs. E was still dependent on dopamine infusion for maintenance of her BP. She was becoming slightly confused but she remained **afebrile**. Echocardiogram was done for suspected heart failure, which showed a normal LV.

CT abdomen was finally done 3 days after admission for shock, showing pneumoperitoneum and peritonitis. Emergency laparotomy was done, showing **posterior perforation of the stomach** at lesser curve. Distal gastrectomy was performed and Mrs. E made a very slow and stormy recovery in ICU.

Comments from Dr SK Leung, Deputy COS (surgery)

The chief complaints in Mrs. E was vomiting and epigastric pain. There was no history of chronic dyspepsia and intake of aspirin or NSAID. In view of non-specific ECG changes, surgical causes need to be considered.

The differential diagnoses include gastroenteritis, peptic ulcer disease or its complications (bleeding, obstruction, perforation), biliary tract disease (biliary colic, cholecystitis, cholangitis, pancreatitis), vascular disease (abdominal aortic aneurysm, mesenteric ischemia), and early appendicitis. Medical causes include myocardial ischemia, ketoacidosis, porphyria and herpes zoster.

Physical examination is an art and there may be difference in the interpretation of signs. Looking retrospectively, Dr. F did elicit the signs of perforated peptic ulcer (PPU). For patients with PPU, the onset of pain is acute and severe. This corresponds to chemical peritonitis caused by gastric content. The patient will have diffuse tenderness and board-like rigidity on examination. Erect CXR shows free gas under diaphragm in 70% of cases. After 3 to 6 hours, the symptoms and signs may lessen. This is vividly called the period of illusion. Few hours afterwards, diffuse bacterial peritonitis sets in and the patient will deteriorate.

In some patients, like the elderly and the immunocompromised, the inflammatory response may be blunted. Sometimes the perforation site may be plugged by omentum. The perforation may also be at the posterior gastric wall, causing contamination of the lesser sac only. In these circumstances, the signs and blood picture may appear normal.

Mrs. E however had change in vital sign with low BP. CT abdomen will give helpful information as it is very sensitive to pick up pneumoperitoneum. Oral contrast study is indicated when PPU is diagnosed and conservative management is adopted.

A number of factors are associated with poor outcome in PPU, namely, delay in diagnosis, co-existing medical illness, shock on admission, leucocytosis and age>75. Fortunately, Mrs. E survived the operation.

For this tricky lady, early CT is the trick of the trade.